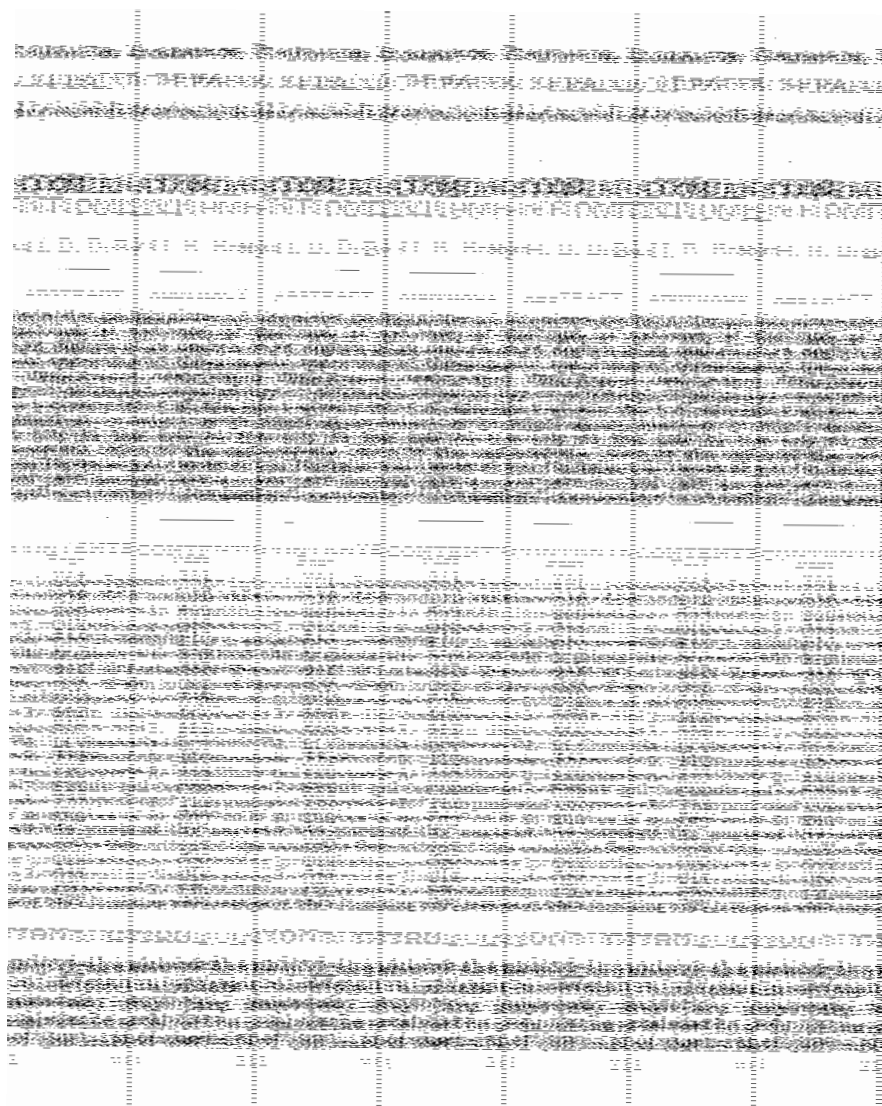
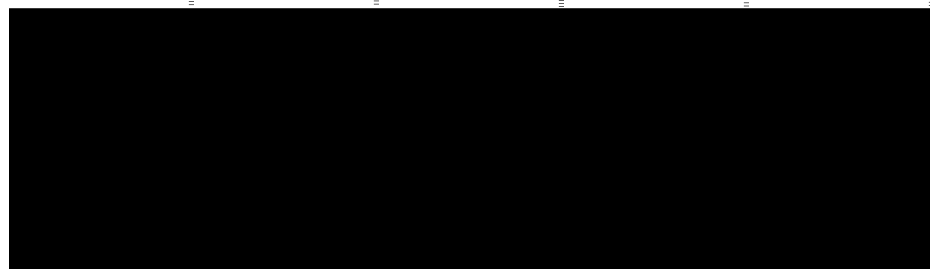


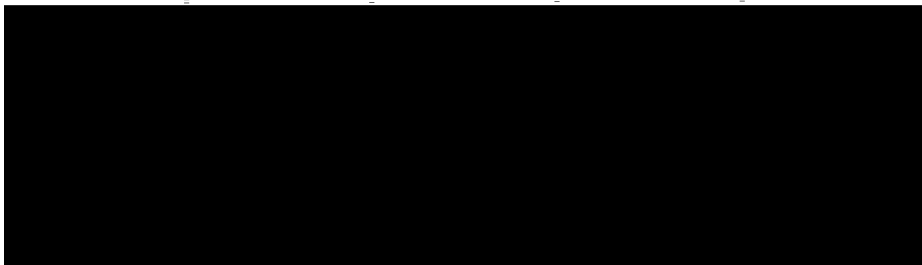
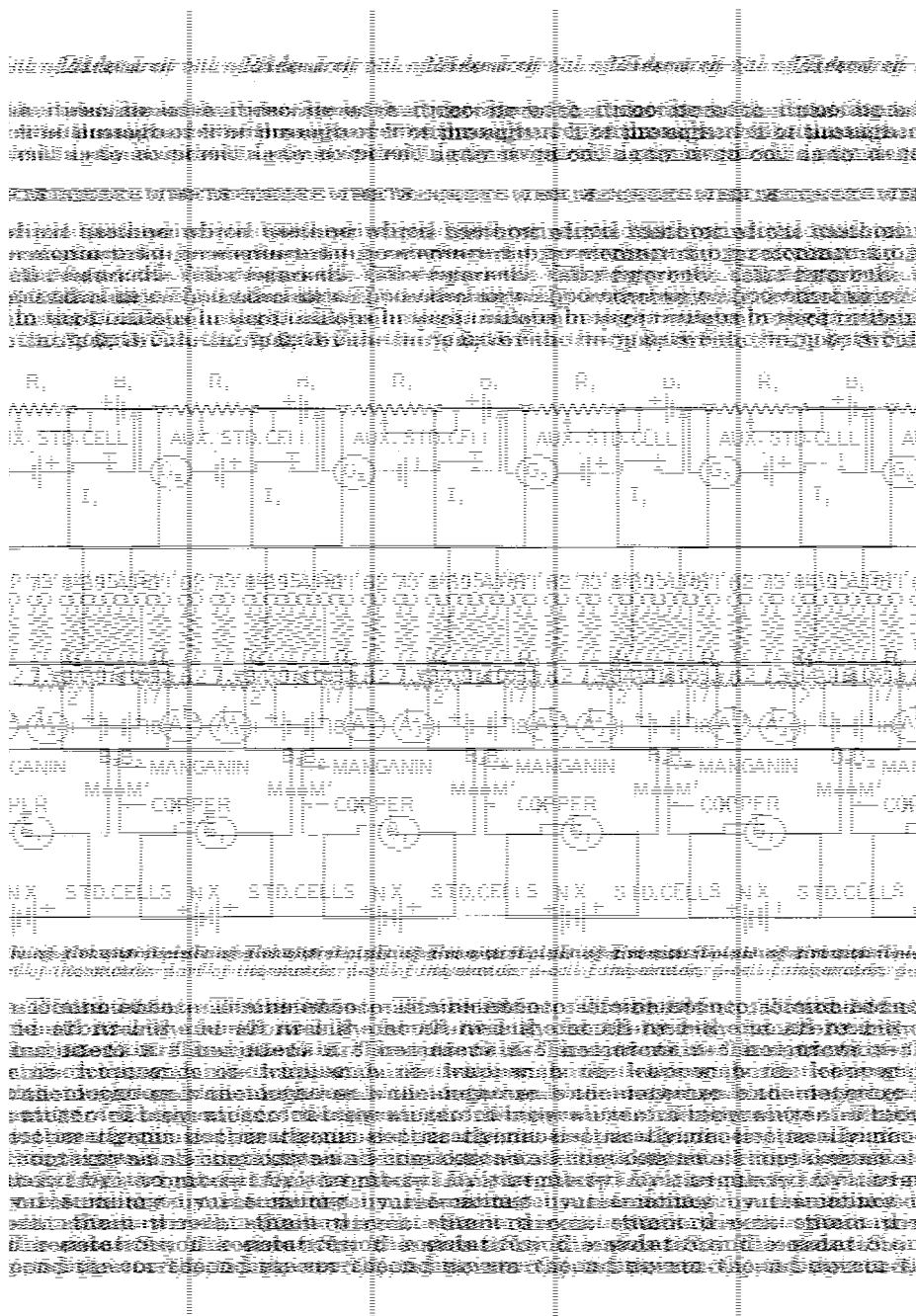
## *Treasure of the Past: IV*

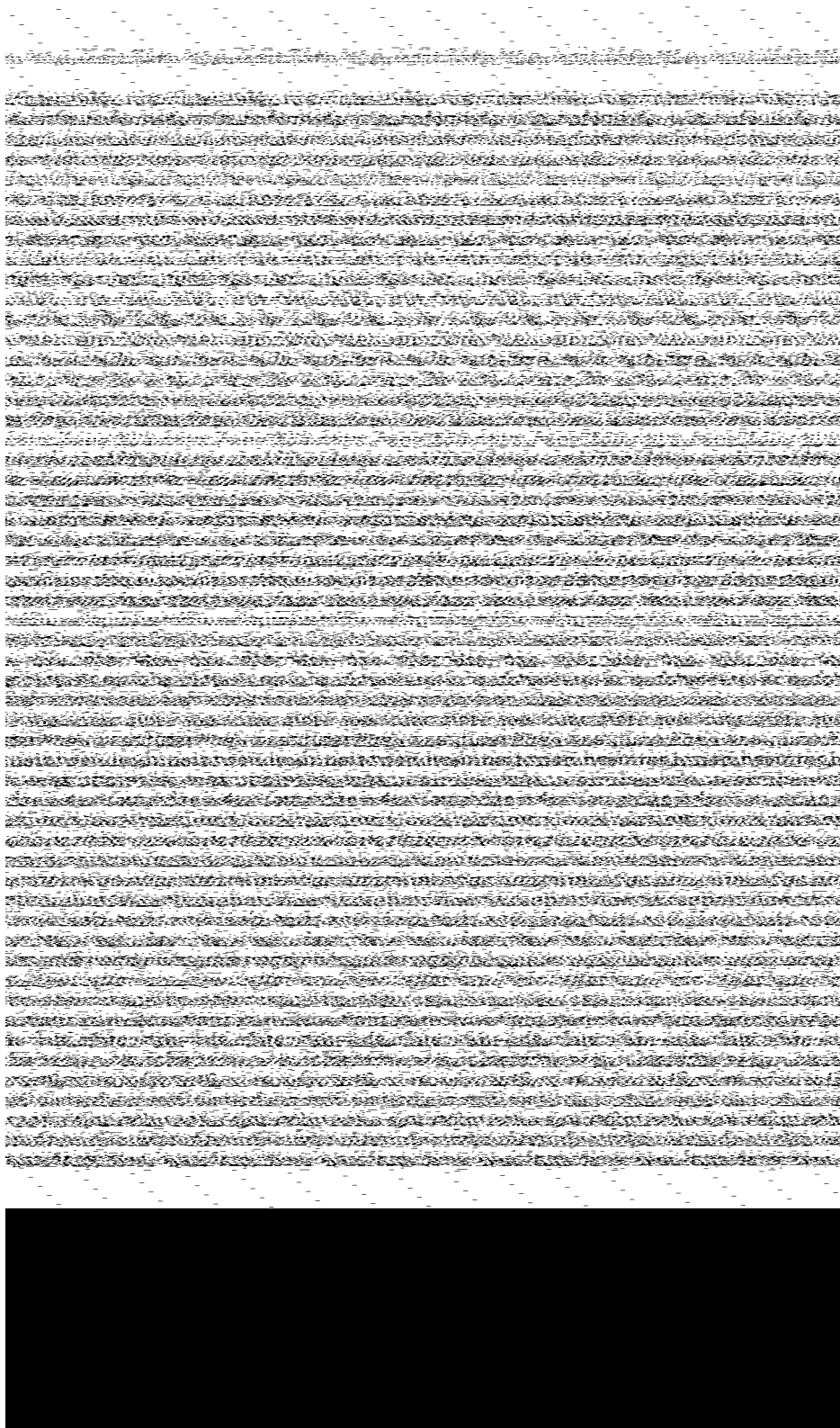
This paper from the *Bureau of Standards Journal of Research*, Vol. 11, No. 2, 1933, pp. 211–231, is reprinted to commemorate the NIST Centennial on March 3, 2001. Ten papers have been selected from the *Journal* and its predecessors for this purpose, one from each decade of NIST's existence. They appear in 10 of the 12 issues of the *Journal* published in 2000 and 2001, starting with the March–April 2000 issue (Vol. 105, No. 2). The papers have been selected to reflect the breadth and excellence of the work carried out at NIST during its first century. For further information, see the Message From the Chief Editor on p. iii of the May–June 2000 issue (Vol. 105, No. 3).

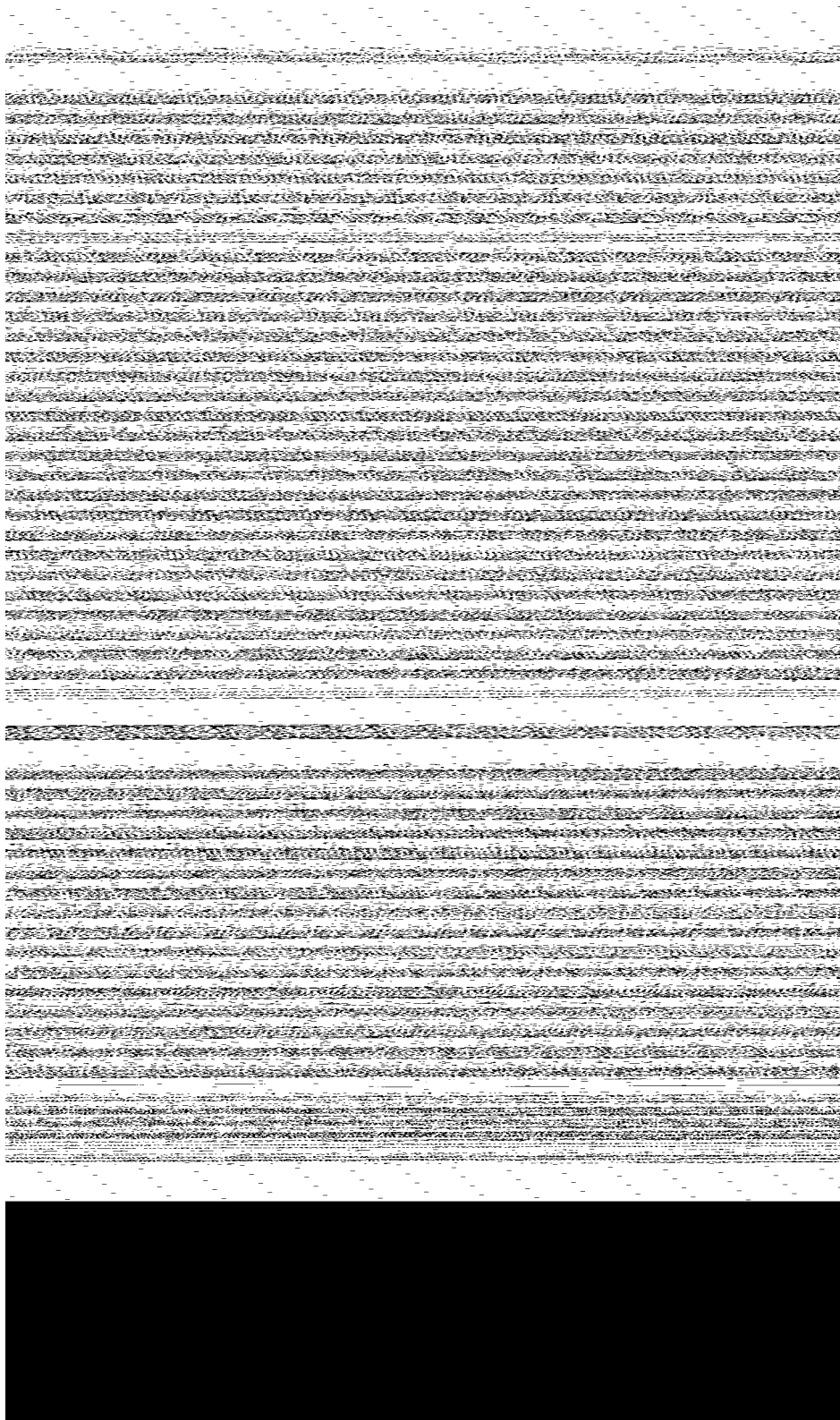


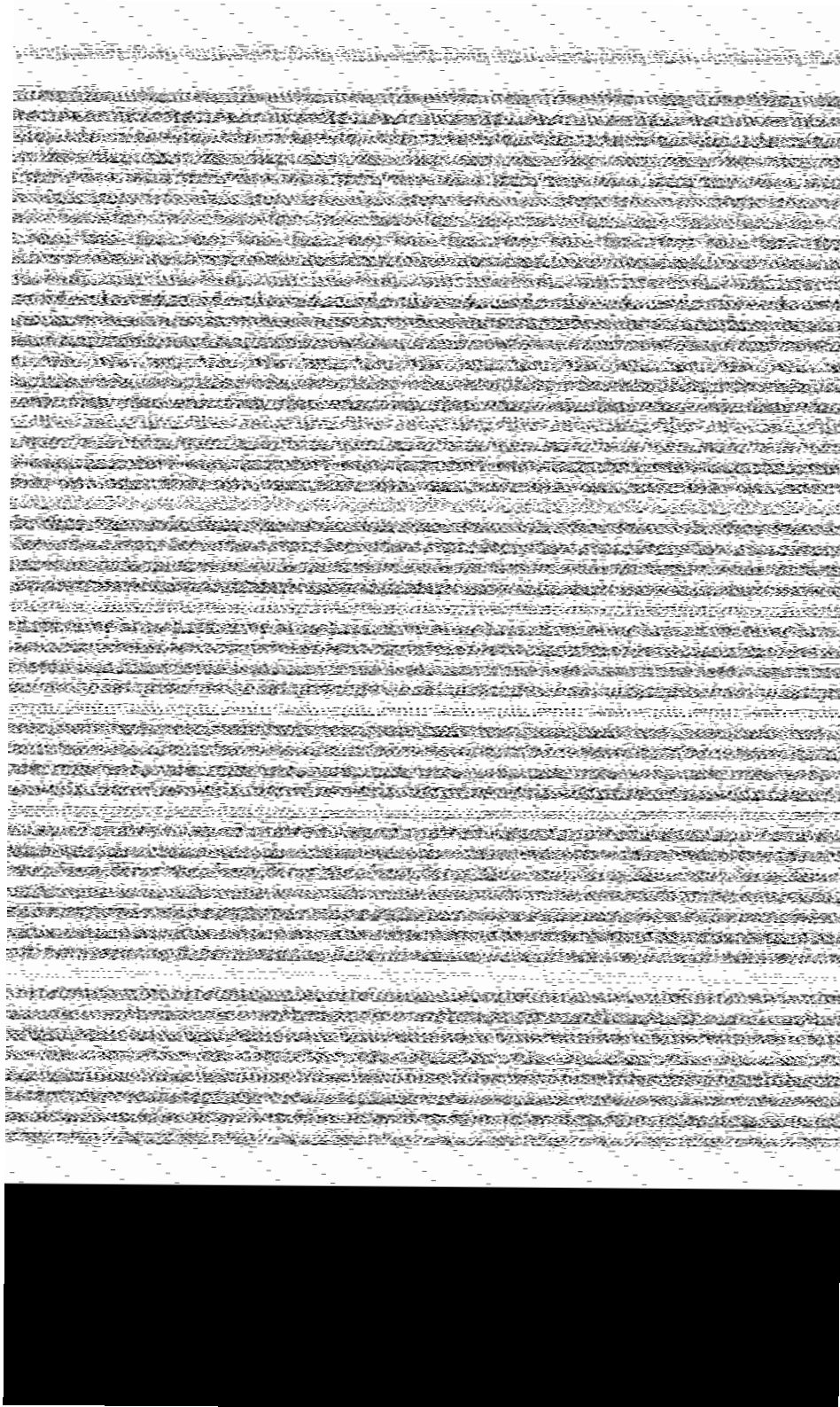


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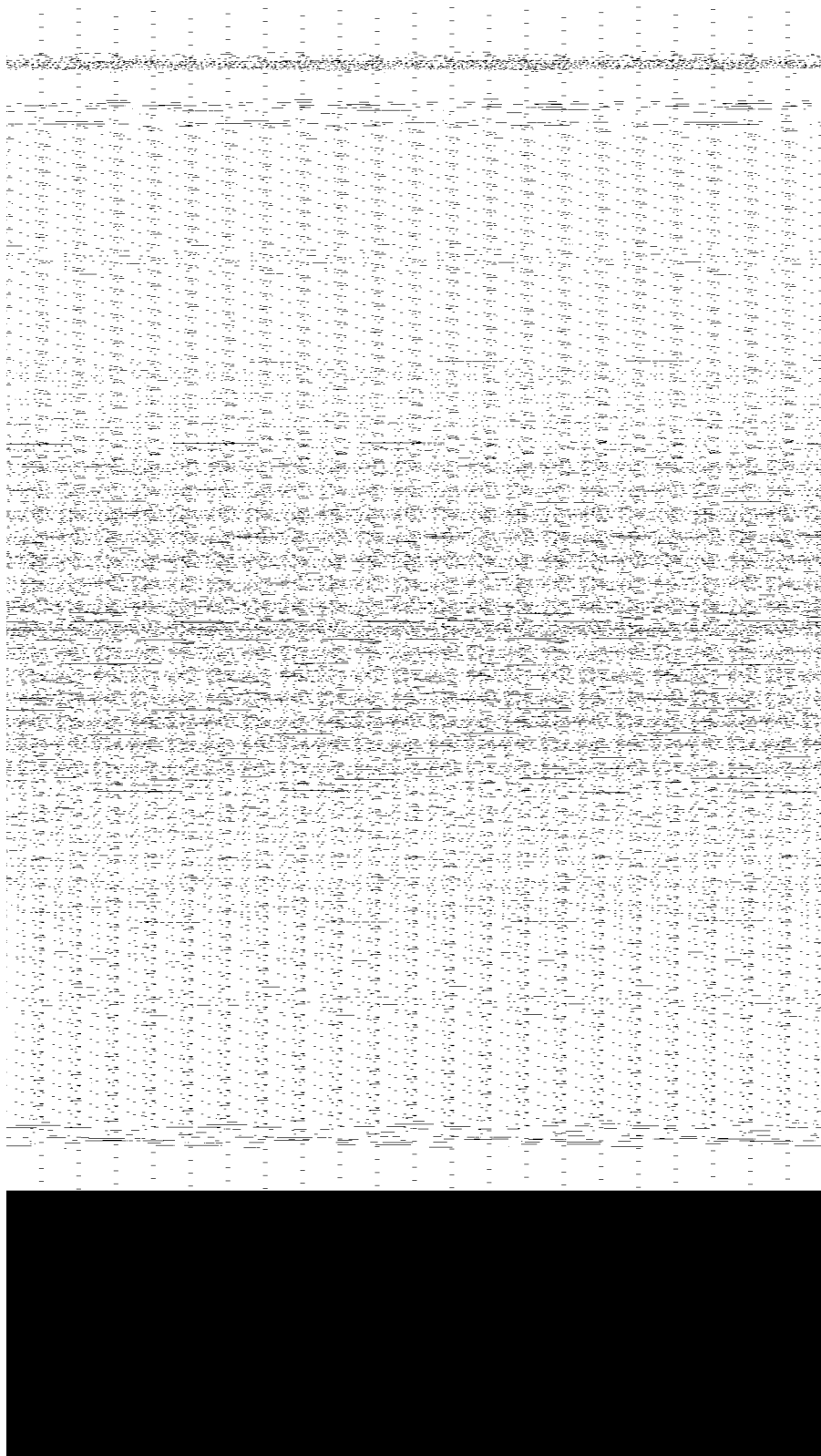














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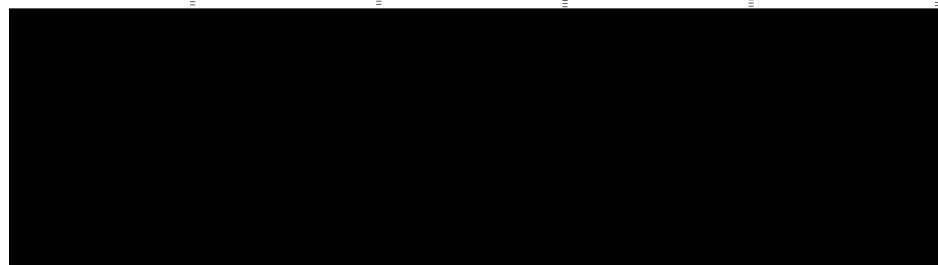
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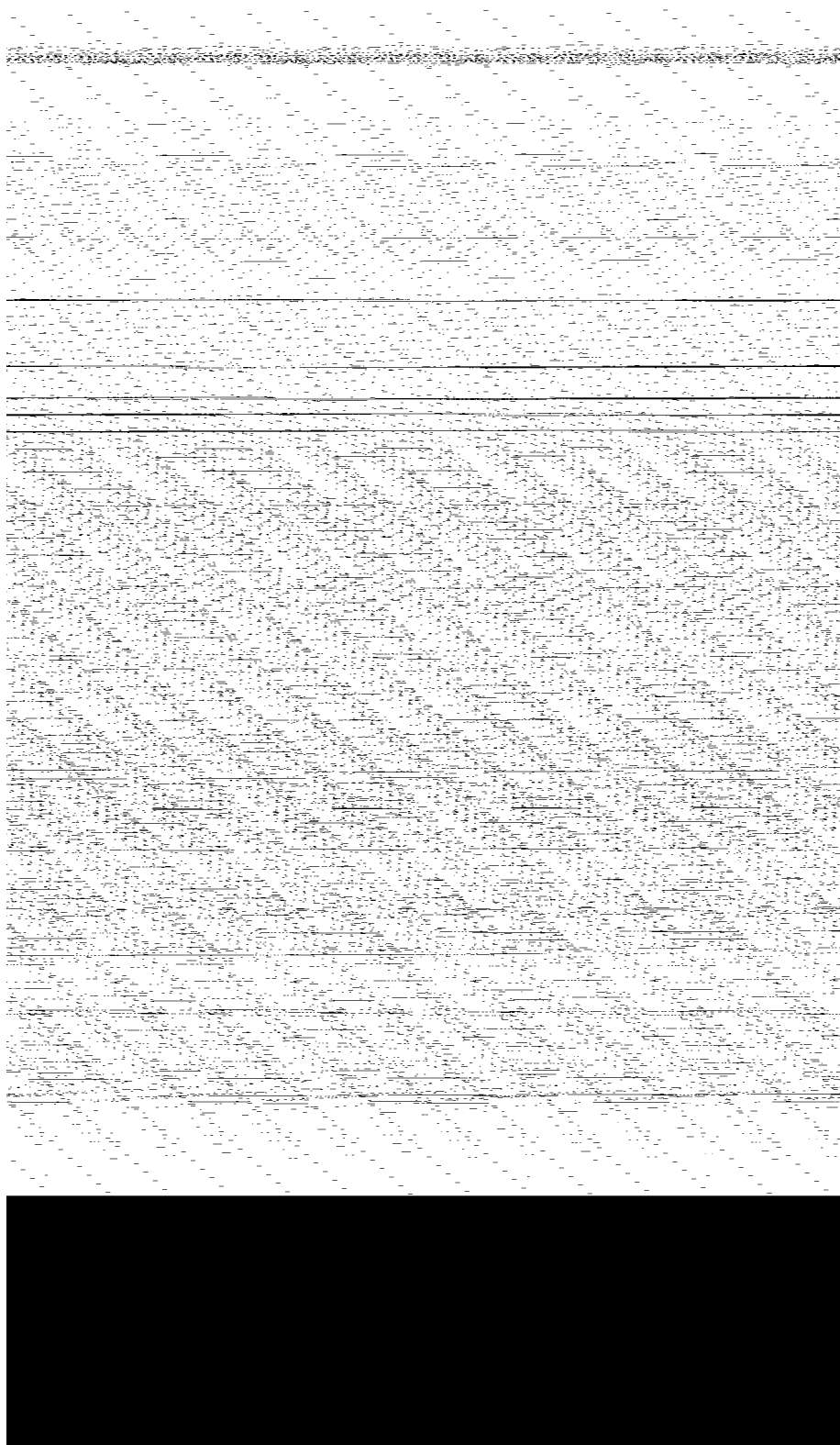
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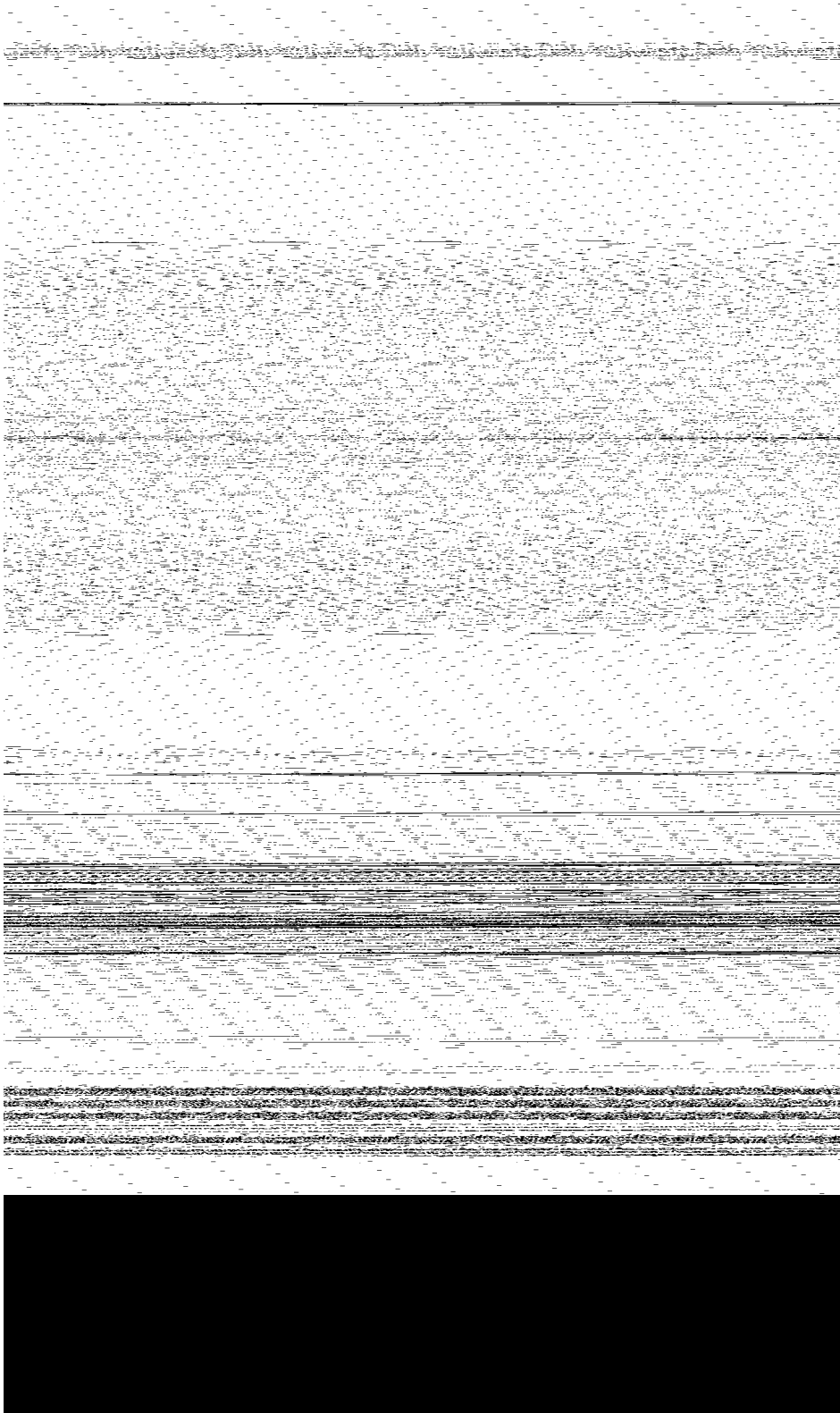
1. The first step in the process of identifying a problem is to define the problem clearly. This involves identifying the symptoms of the problem and determining the scope of the problem. Once the problem has been defined, the next step is to identify the causes of the problem. This involves identifying the factors that are contributing to the problem and determining the underlying causes of the problem. Once the causes of the problem have been identified, the next step is to develop a plan to address the problem. This involves identifying the actions that need to be taken to address the problem and determining the resources that are needed to implement the plan. Once a plan has been developed, the next step is to implement the plan. This involves taking the actions that have been identified in the plan and ensuring that the resources are available to implement the plan. Finally, the last step in the process is to evaluate the results of the plan. This involves determining whether the plan has been successful in addressing the problem and identifying any areas for improvement.

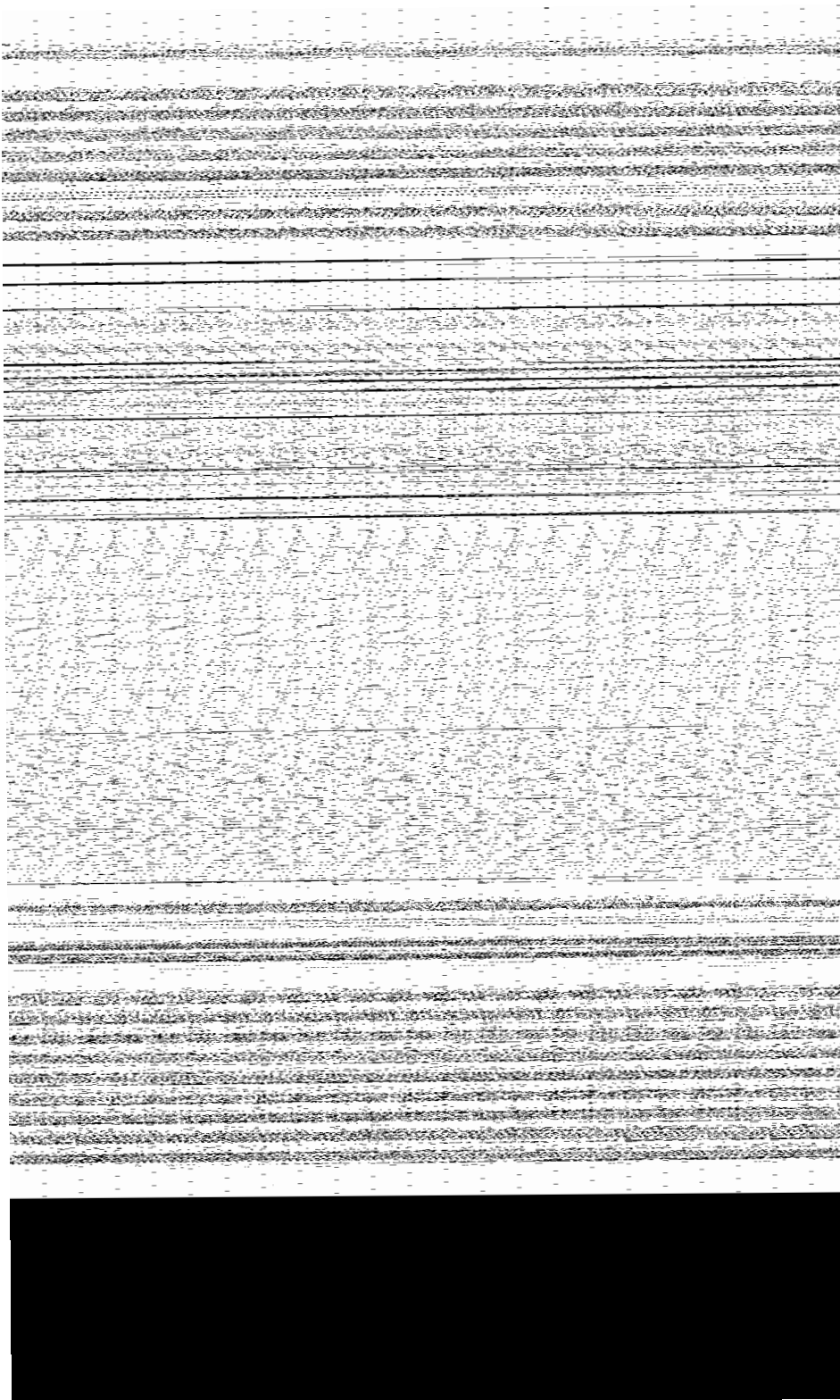
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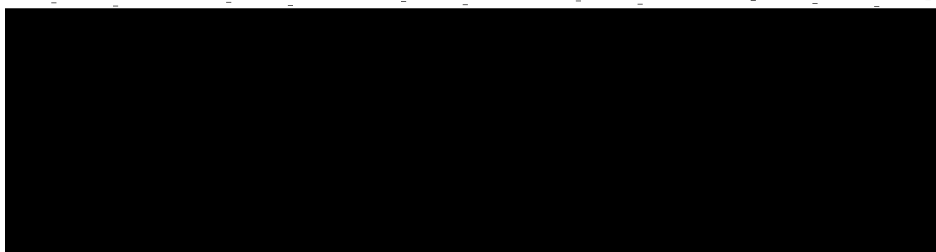
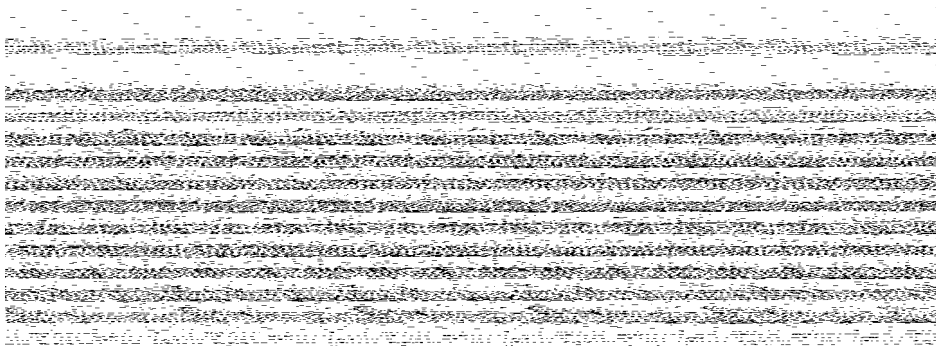
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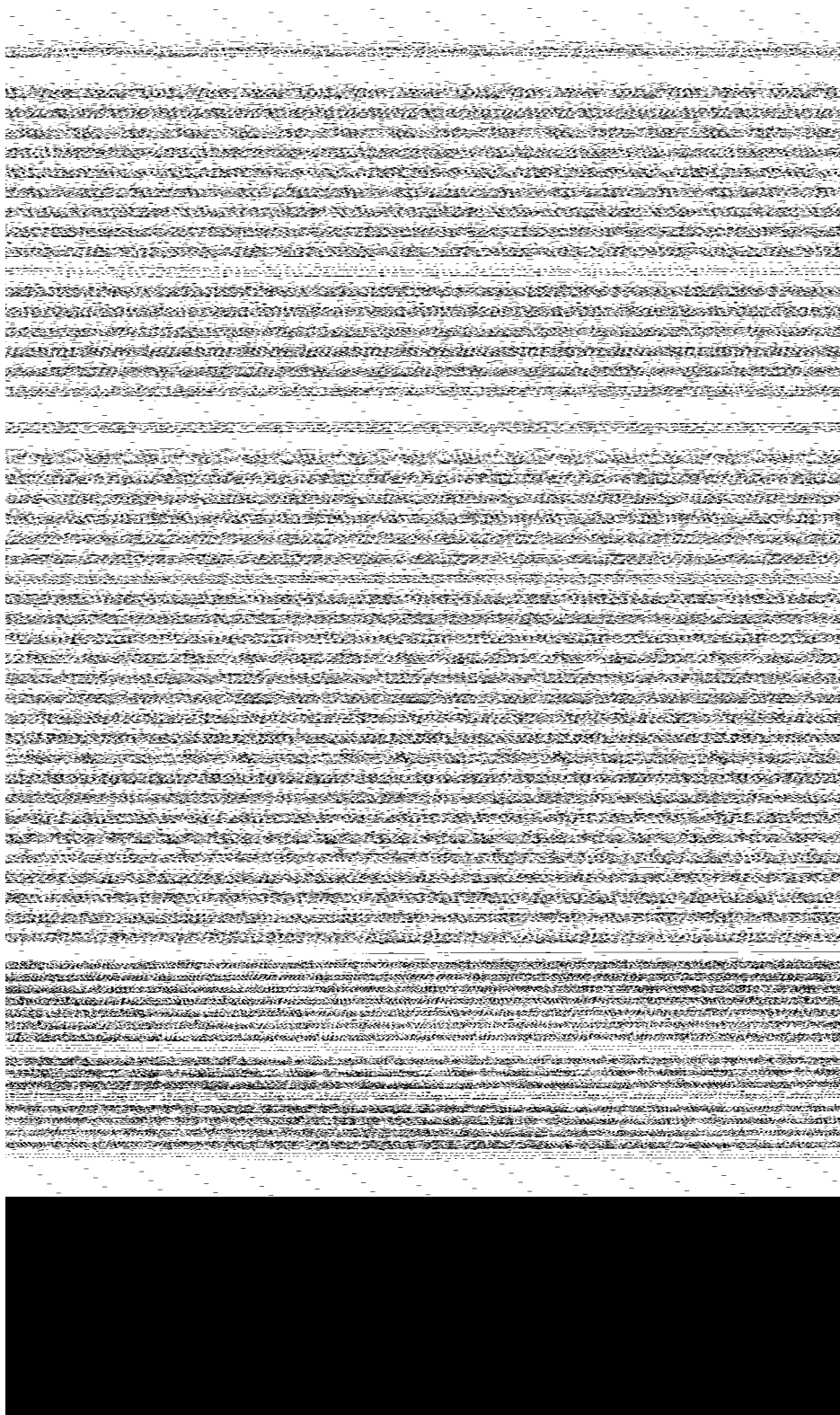
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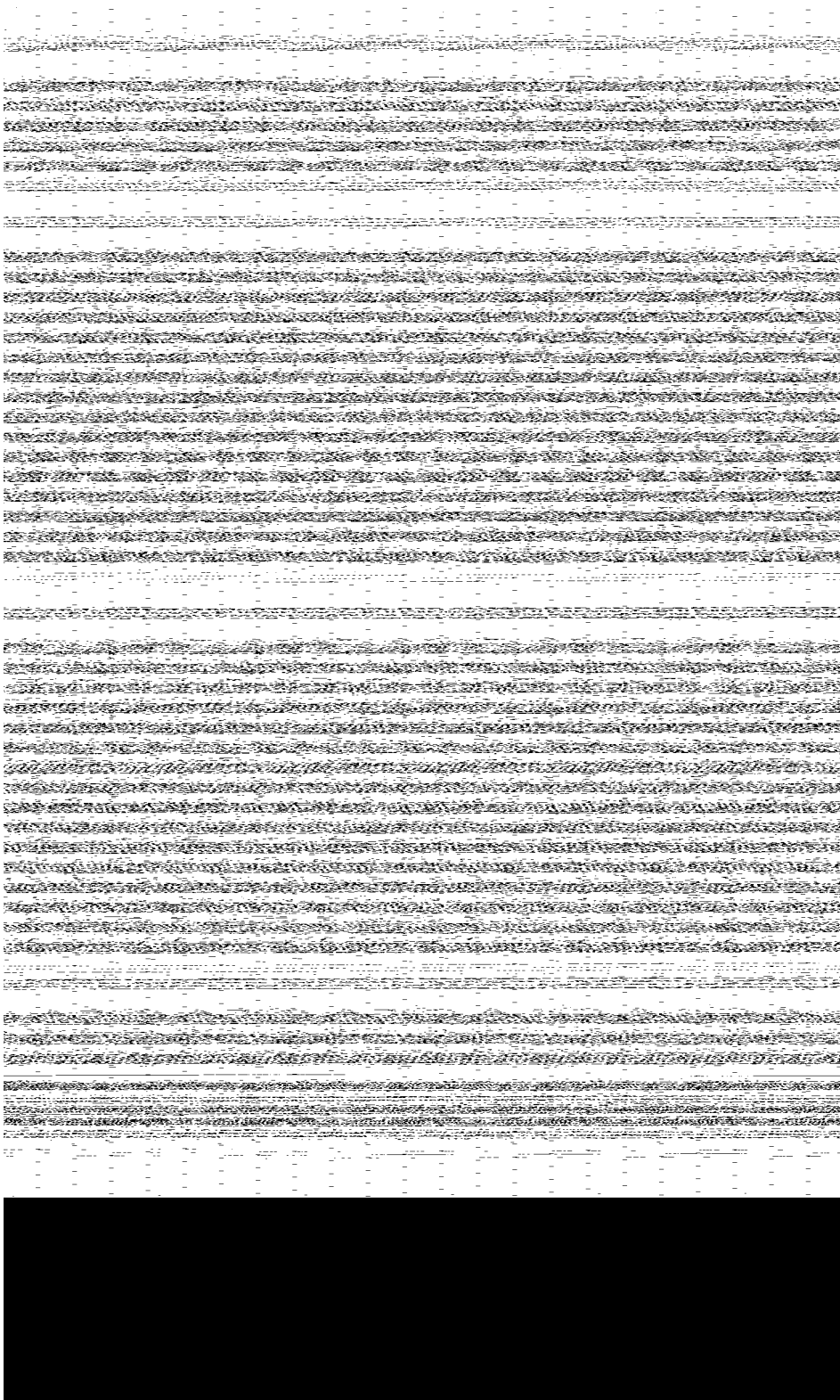






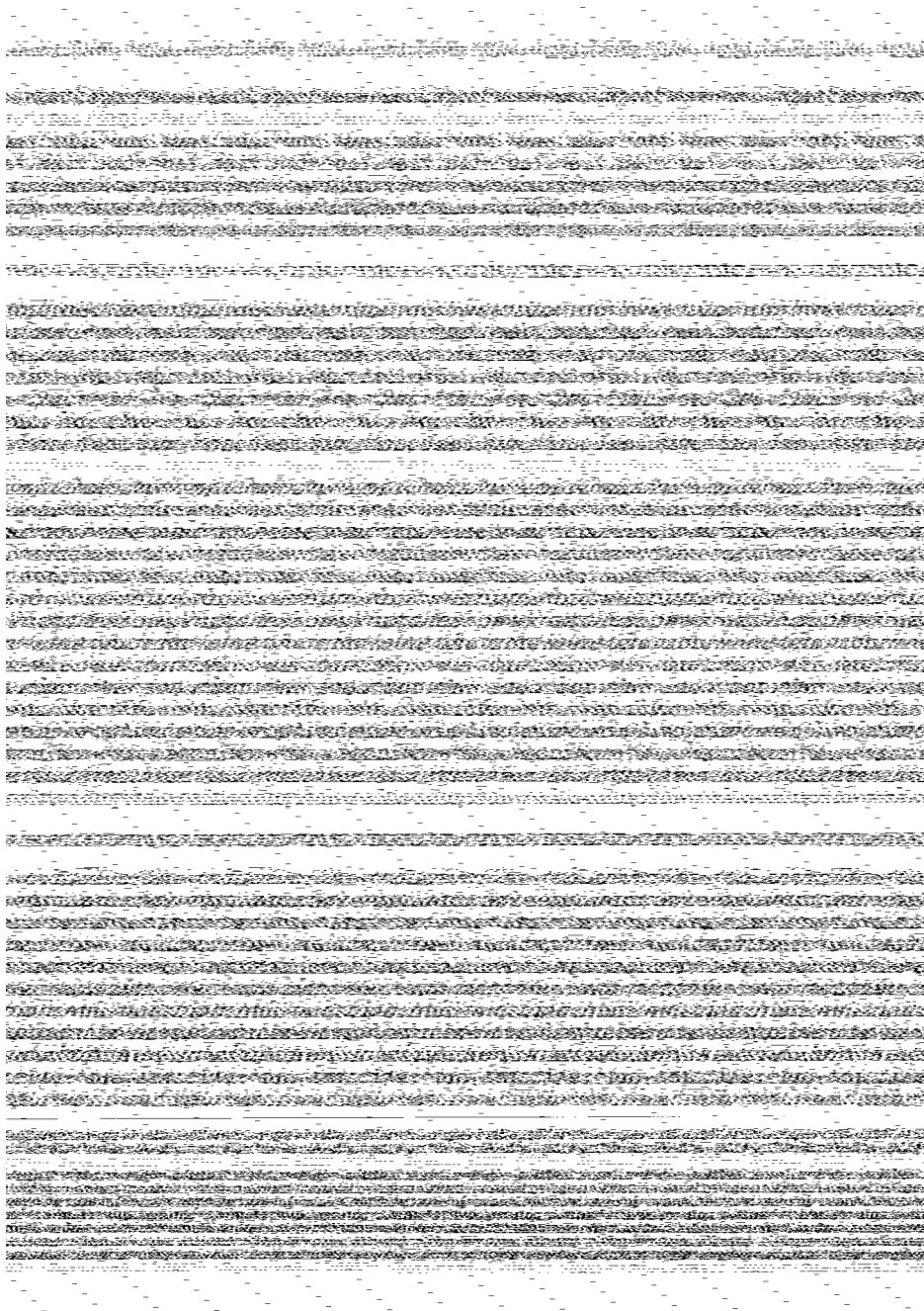












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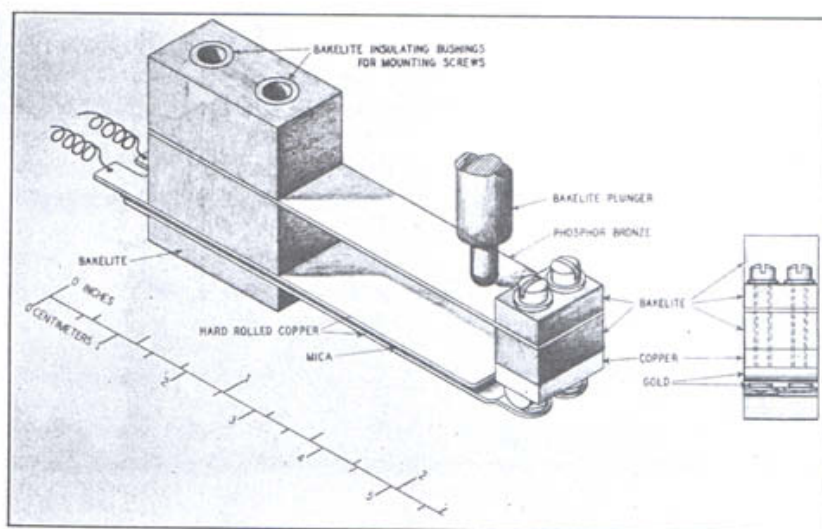


FIGURE 6.—Galvanometer key embodying refinements to minimize thermal emf.

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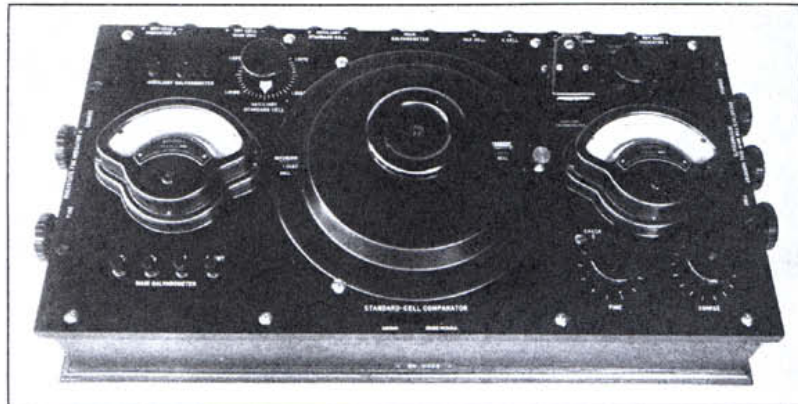


FIGURE 7.—*The standard-cell comparator from a photograph.*

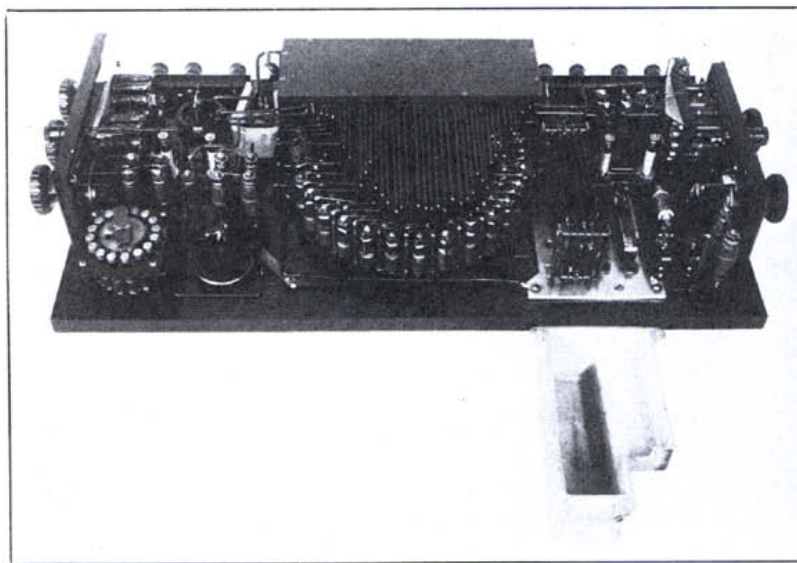
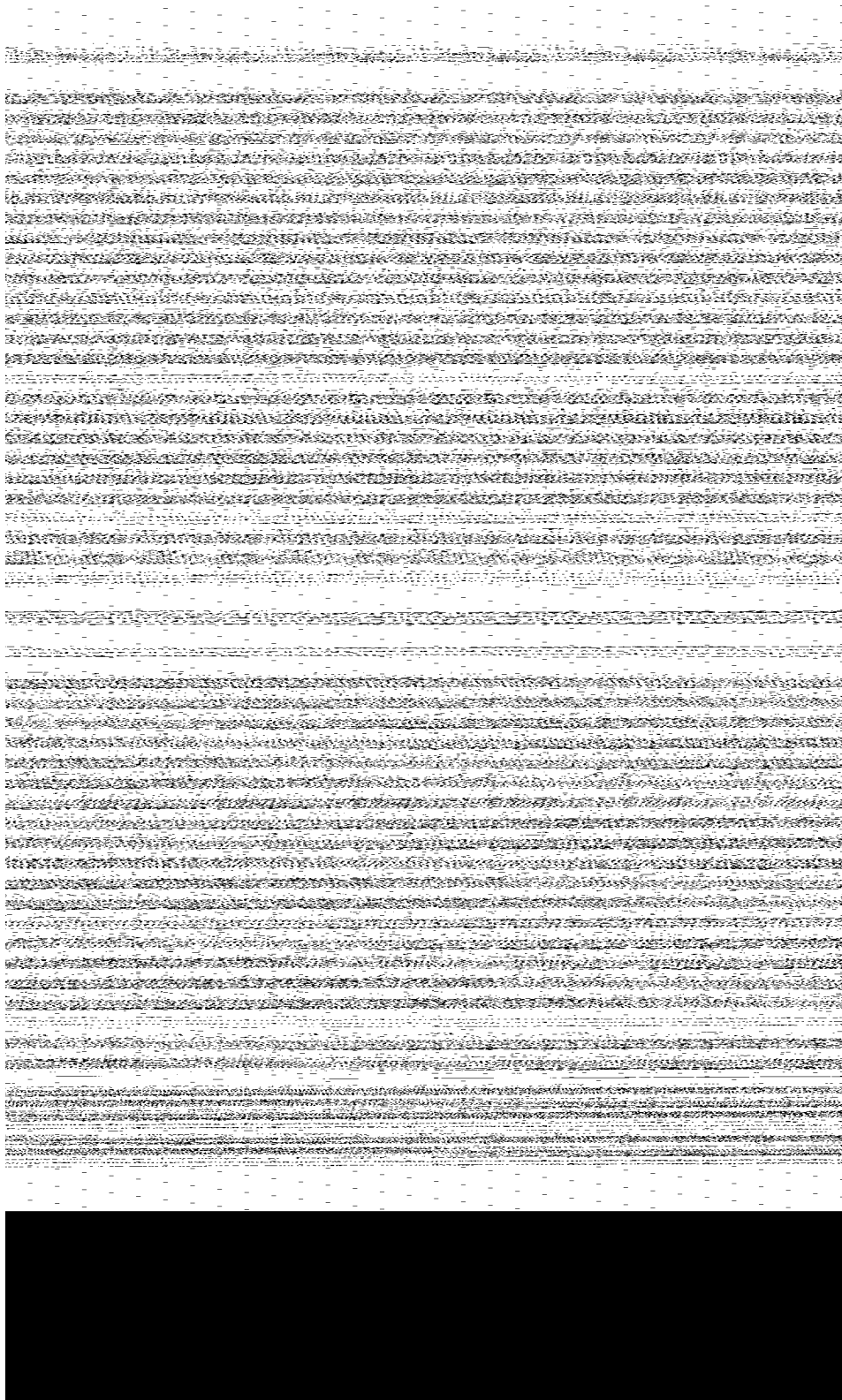
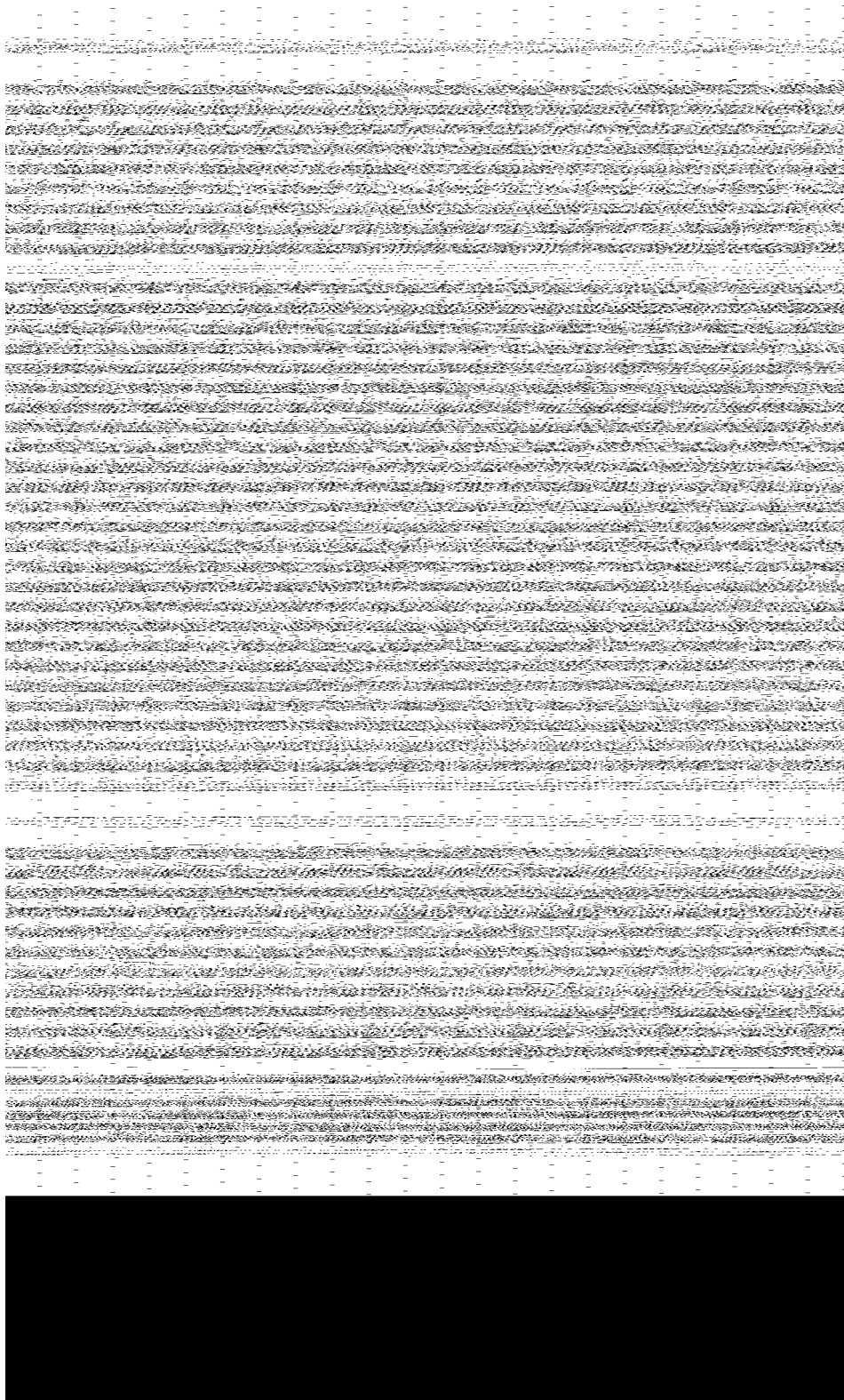


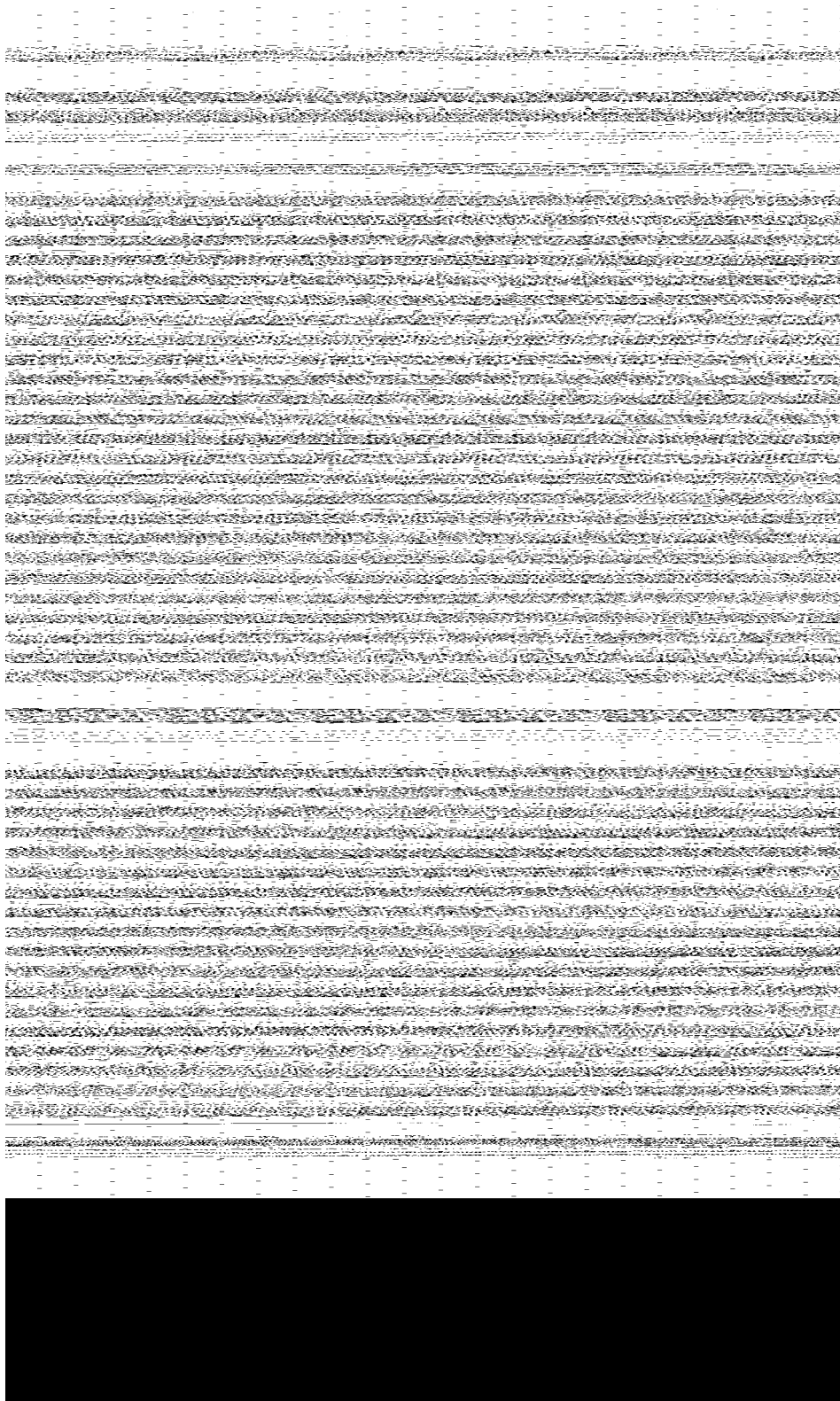
FIGURE 8.—*Interior of the standard-cell comparator.*

Centrally located at the top is the bakelite box containing the main-dial resistor. The tap wires from this resistor extend downward to the substitution coils of the main dial. The aluminum box which normally encloses the thermofree keys and the copper shunt coil has been removed to show these details.

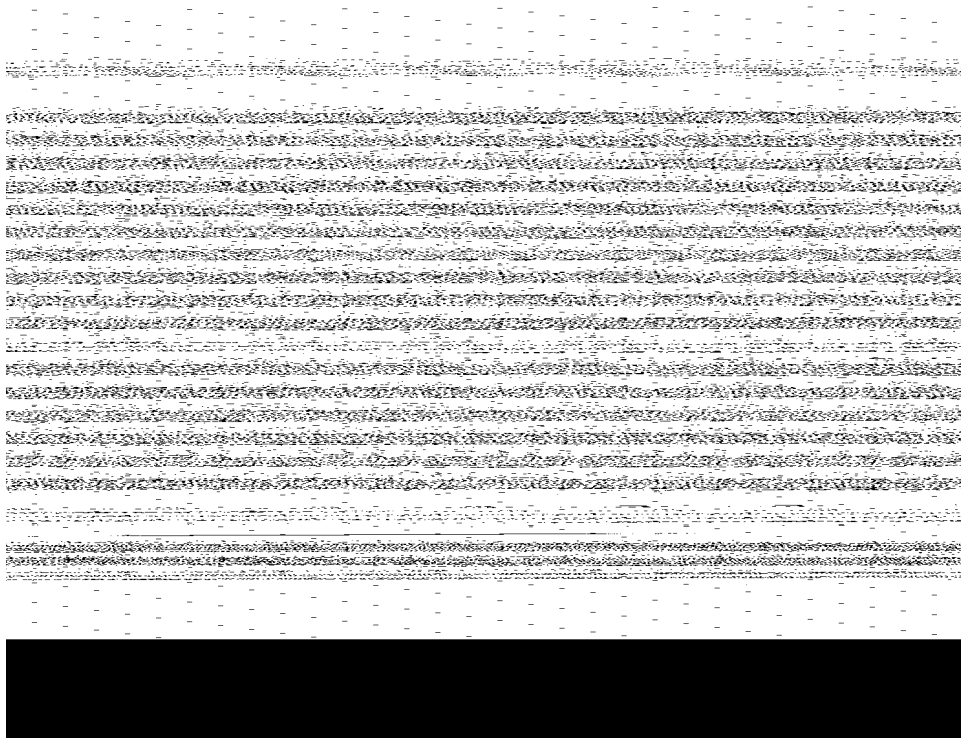












# *Errata*

## *Erratum: The NIST Length Scale Interferometer*

**John S. Beers and  
William B. Penzes**

National Institute of Standards  
and Technology,  
Gaithersburg, MD 20899-0001

[J. Res. Natl. Inst. Stand. Technol. Volume 104, Number 3, May-June 1999, p. 225]

The caption for Fig. 13 on p. 243 should be **Fig. 13.**  
Effect of atmospheric CO<sub>2</sub> concentration on laser  
wavelength.

# *Errata*

## *Erratum: Possible Advantages of a Robust Evaluation of Comparisons*

**Jörg Müller**

Bureau International des Poids et Mesures,  
F-92312 Sevres, France

[J. Res. Natl. Inst. Stand. Technol. Volume 105, Number 4, July-August 2000, p. 551]

On p. 554, the sixth line down in the right-hand column should be as follows:

If  $t$  is located between  $y_{-1}$  and  $y_1$ :  $Q = y_1 - y_{-1} = Q_0$ .